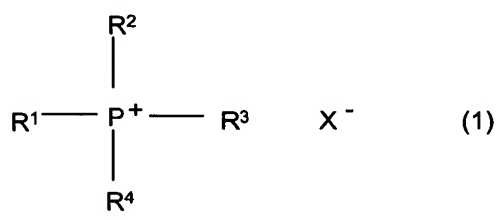


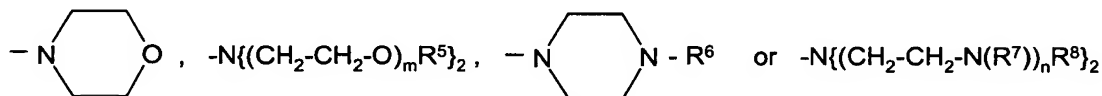
Amendments to the Claims

Claims 1-10 (cancelled)

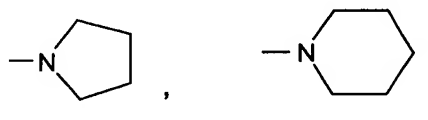
11. (Currently Amended) A catalyst for a chemical reaction comprising ~~The use of a~~
~~compound of the formula (1):~~



in which one, two or three of the radicals R¹, R², R³ and R⁴ are



where m and n are an integer from 1 to 10, R⁵, R⁶, R⁷ and R⁸ are, independently of one another, identical or different and are a straight-chain or branched alkyl radical having 1 to 10 carbon atoms, and the remaining radical(s) R¹ to R⁴ are

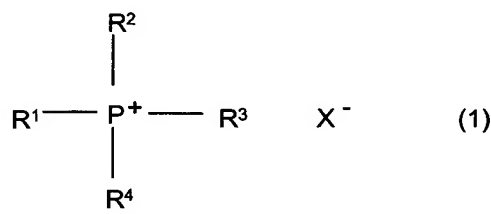


or —NR⁹R¹⁰, where R⁹ and R¹⁰ are identical or different and are a straight-chain or branched alkyl radical having 1 to 10 carbon atoms,

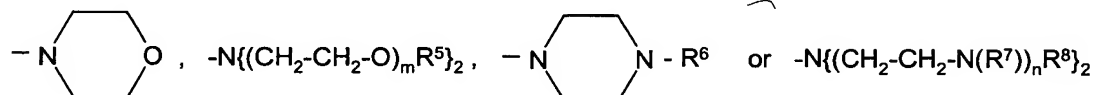
and X⁻ is an inorganic or organic anion or an equivalent of a multiply charged inorganic or organic anion,

~~as catalyst and cocatalyst for~~ wherein the chemical reaction is selected from the group consisting of phase-transfer reactions, nucleophilic substitutions and halogen-fluorine exchange reactions.

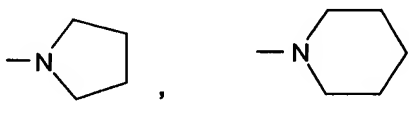
12. (Currently Amended) The use of a catalyst mixture for a chemical reaction of substances comprising at least one compound of the formula (1):



in which one, two or three of the radicals R¹, R², R³ and R⁴ are



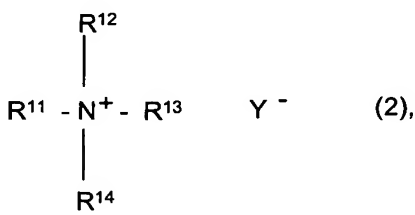
where m and n are an integer from 1 to 10, R⁵, R⁶, R⁷ and R⁸ are, independently of one another, identical or different and are a straight-chain or branched alkyl radical having 1 to 10 carbon atoms, and the remaining radical(s) R¹ to R⁴ are



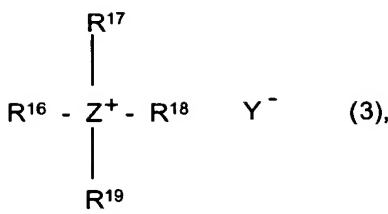
or —NR⁹R¹⁰, where R⁹ and R¹⁰ are identical or different and are a straight-chain or branched alkyl radical having 1 to 10 carbon atoms,

and X[−] is an inorganic or organic anion or an equivalent of a multiply charged inorganic or organic anion,

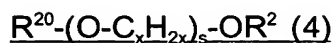
and at least one compound selected from the group consisting of quaternary ammonium compounds of the formula (2):



quaternary ammonium salts or phosphonium salts of the formula (3)

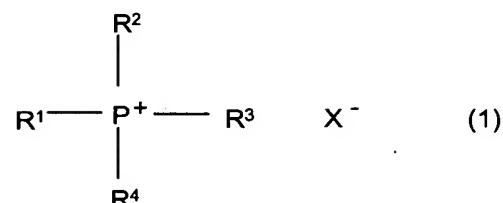


polyethers of the formula (4)

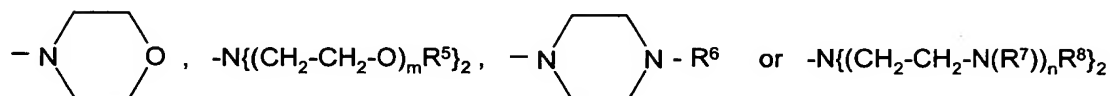


and crown ethers in which in formula (2) R^{11} , R^{12} and R^{13} are identical or different and are a linear or branched radical of the formula $-(C_pH_{2p}O)_rR^{15}$ in which R^{15} is hydrogen or a linear or branched alkyl radical having 1 to 16 carbon atoms, p is an integer from 1 to 10 and r is an integer from 1 to 15; or a linear or branched alkyl radical having 1 to 30 carbon atoms; or an unsubstituted phenyl or naphthyl radical, or a substituted phenyl or naphthyl radical, where the substituents have the meaning of halogen, C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy, nitro or cyano; R^{14} is a linear or branched radical of the formula $-(C_pH_{2p}O)_rR^{15}$ and Y^- is an inorganic anion; and in formula (3) R^{16} , R^{17} , R^{18} and R^{19} are identical or different and are a linear or branched alkyl radical having 1 to 22 carbon atoms; or an unsubstituted or substituted aryl radical or a C_1 - C_4 -alkylaryl radical, where aryl has the meaning of phenyl or naphthyl, and said substituents are halogen, C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy, nitro or cyano; Z has the meaning of N or P, and Y^- is an inorganic anion; and in formula (4) R^{20} and R^{21} are identical or different and are a linear or branched alkyl radical having 1 to 16 carbon atoms; x is an integer from 2 to 6 and s is an integer from 1 to 60; or one of the radicals R^{20} and R^{21} is hydrogen and the other one of the radicals is a linear or branched alkyl radical having 1 to 16 carbon atoms, x is an integer from 2 to 6 and s is an integer from 2 to 50, or the radicals R^{20} and R^{21} are hydrogen, x is an integer from 2 to 6 and s is an integer from 3 to 5, and wherein the chemical reaction is selected from the group consisting of as-catalyst for phase-transfer reactions, nucleophilic substitutions and halogen-fluorine exchange reactions.

13. (New) A cocatalyst for a chemical reaction comprising a compound of the formula (1):



in which one, two or three of the radicals R^1 , R^2 , R^3 and R^4 are



where m and n are an integer from 1 to 10, R^5 , R^6 , R^7 and R^8 are, independently of one another, identical or different and are a straight-chain or branched alkyl radical having 1 to 10 carbon atoms, and the remaining radical(s) R^1 to R^4 are



or $-\text{NR}^9\text{R}^{10}$, where R^9 and R^{10} are identical or different and are a straight-chain or branched alkyl radical having 1 to 10 carbon atoms,

and X^- is an inorganic or organic anion or an equivalent of a multiply charged inorganic or organic anion,

wherein the chemical reaction is selected from the group consisting of phase-transfer reactions, nucleophilic substitutions and halogen-fluorine exchange reactions.

14. (New) A method for catalyzing a chemical reaction comprising the step of adding a catalyst according to claim 11 to the chemical reaction, wherein the chemical reaction is selected from the group consisting of phase-transfer reactions, nucleophilic substitutions and halogen-fluorine exchange reactions.

15. (New) A method for catalyzing a chemical reaction comprising the step of adding a catalyst mixture according to claim 12 to the chemical reaction, wherein the chemical reaction is selected from the group consisting of phase-transfer reactions, nucleophilic substitutions and halogen-fluorine exchange reactions.

16. (New) A method for catalyzing a chemical reaction comprising the step of adding a cocatalyst according to claim 12 to the chemical reaction, wherein the chemical reaction is selected from the group consisting of phase-transfer reactions, nucleophilic substitutions and halogen-fluorine exchange reactions.

17. (New) The catalyst mixture of claim 12, wherein in formula (2) R^{11} , R^{12} and R^{13} are identical or different and are a linear or branched radical of the formula $-(C_pH_{2p}O)_rR^{15}$ in which R^{15} is hydrogen or a linear or branched alkyl radical having 1 to 8 carbon atoms, p is an integer from 1 to 5 and r is an integer from 2 to 10; or a linear or branched alkyl radical having 1 to 18 carbon atoms; or an unsubstituted phenyl or naphthyl radical; R^{14} is a linear or branched radical of the formula $-(C_pH_{2p}O)_rR^{15}$, in which R^{15} is hydrogen or a linear or branched alkyl radical having 1 to 8 carbon atoms, p is an integer from 1 to 5 and r is an integer from 2 to 10; and X^- is fluoride, chloride, bromide, $1/2SO_4^{2-}$ or hydrogen sulfate.